



INFRASTRUCTURE SERVICES REPORT
FOR
RESIDENTIAL REDEVELOPMENT
HOWSON TERRACE, RICHMOND HILL, RICHMOND UPON THAMES
ON BEHALF OF
HOUSING 21

JANUARY 2021

[ISSUE 1]

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TRANSPORT PLANNING ~ WATER MANAGEMENT ~ CIVIL ENGINEERING
BRISTOL & SWINDON
Incorporated in UK as Cole Easdon Consultants Ltd No. 0202 7005



COLE EASDON CONSULTANTS (CEC)

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CONTENTS

SECTION	HEADING	PAGE NO.
1.0	INTRODUCTION	1
2.0	ELECTRICITY	2
3.0	GAS	3
4.0	WATER AND SEWERAGE	4
5.0	TELECOMMUNICATIONS	5
6.0	LINESEARCH	6
7.0	GTC-UK	9
8.0	CONCLUSIONS AND WAY FORWARD	10



APPENDICES

Appendix 1 - CEC Plans

CEC Plan 7488/500/Figure1 Site Location Plan

Appendix 2 - UK Power Networks Correspondence

Appendix 3 - National Grid - Cadent Gas Ltd Correspondence

Appendix 4 - Thames Water Correspondence

Appendix 5 - Virgin Media Correspondence

Appendix 6 - BT Openreach Correspondence

Appendix 7 - Vodafone Correspondence

Appendix 8 - Linesearch Correspondence

Appendix 9 - GTC-UK Correspondence

1.0 INTRODUCTION

1.1 This *Infrastructure Services Report* has been prepared by Cole Easdon Consultants Limited (CEC) on behalf of Housing 21 in relation to a planning application for the proposed residential development at Howson Terrace, Richmond Hill, London Borough of Richmond Upon Thames. Refer to CEC Plan 7488/500/Figure1 [*Site Location Plan*] contained within Appendix 1.

1.2 The objective of this *Infrastructure Services Report* is to identify any constraints on development relating to existing utilities infrastructure at the proposed development site.

Development Proposal

1.3 The development proposal comprises the demolition of the existing buildings and the erection of a new 5 storey block accommodating 28 No. affordable apartments for over 55s. Access to the site will be from Richmond Hill as per current arrangement.

Existing Records and Capacity Enquiries

1.4 The prime source of records for existing on- and off-site infrastructure services are the Utility Companies, who are obliged to provide copies of their records upon request, albeit sometimes at a cost.

1.5 Enquiries have been issued to the following companies for records of existing services:

- i) UK Power Networks - Electricity;
- ii) National Grid - Cadent Gas Ltd - Gas supply;
- iii) Thames Water - Sewerage & water supply;
- iv) Virgin Media, BT Openreach and Vodafone - Telecommunications;
- v) Linesearch; and
- vi) GTC-UK.

1.6 Copies of correspondence and plans received showing existing utility services are included within Appendices 2 to 9.

2.0 ELECTRICITY

UK Power Networks

- 2.1 UK Power Networks have provided plans showing their existing apparatus in the vicinity of the site, refer to Appendix 2.

- 2.2 Records indicate there are Low Voltage (LV) overhead cables within the site supplying the existing buildings in Howson Terrace, with 11kv underground cables present within the unnamed track leading to Howson Terrace. Both the LV overhead and 11kv belowground cables are also located within Richmond Hill to the east of the site, with LV overhead cables to the west of the site in Petersham Road.

3.0 GAS

National Grid - Cadent Gas Ltd

- 3.1 Cadent Gas Ltd have provided details of their existing gas main network within the vicinity of the proposed development site, refer to Appendix 3.
- 3.2 There are no existing Cadent Gas Ltd apparatus within the development site, however apparatus can be found within the vicinity of the site. Approximately 50m to the west of the site an existing Low Pressure Main is located off the unnamed road off Petersham Road. This main runs in a westerly direction towards a valve at the junction between Petersham Road and the unnamed road.
- 3.3 Approximately 85m to the east of the site another Low Pressure Main is located within Richmond Hill. This main runs along the whole of Richmond Hill, with various branches into roads off Richmond Hill.

4.0 WATER AND SEWERAGE

Thames Water

- 4.1 Thames Water have provided details of their existing network for both water and sewerage in the vicinity of the proposed development site, refer to Appendix 4.

Sewerage

- 4.2 Both public surface water and foul water sewers are located within the vicinity of the site. East of the site, both public surface water and foul water sewers are located within Richmond Hill and flow in a north westerly direction. West of the site, public surface water and foul sewers are located beneath Petersham Road. Records show a length of a combined drain (not owned by Thames Water) located within the development site.

Water Supply

- 4.3 Numerous distribution mains are located within the vicinity of the site. A distribution main is located within the unnamed road off Richmond Hill with a single hydrant and Customer Supply to Howson Terrace and Bromwich House. 2 No. single hydrants are also located at the entrance to this unnamed road off Richmond Hill. To the east of the site, both a distribution main and a trunk main run along Richmond Hill. To the west of the site, a distribution main is located within Petersham Road.

5.0 TELECOMMUNICATIONS

Virgin

- 5.1 Virgin Media have provided details of their existing apparatus in the vicinity of the proposed development site, refer to Appendix 5.
- 5.2 There are no Virgin Media apparatus located within the development site, however telecommunications infrastructure is located to the east of the site within Richmond Hill and to the west of the site within Petersham Road. Refer to Appendix 5.

BT Openreach

- 5.3 BT Openreach have provided details of their existing apparatus in the vicinity of the proposed development site, refer to Appendix 6.
- 5.4 BT Openreach apparatus in the form of 2 no. boxes with split coupling are located directly within the development site. Telecommunications infrastructure run along Richmond Hill and to the site via the unnamed road off Richmond Hill. Telecommunications infrastructure are also located within Petersham Road.

Vodafone

- 5.5 Atkins Global on behalf of Vodafone have confirmed they do not have any existing apparatus in the vicinity of the proposed development site, refer to Appendix 7.

6.0 LINESEARCH

6.1 We have received confirmation via Linesearch that apparatus owned by the following companies is not located within or immediately adjacent to the development site. Refer to Appendix 8:

- AWE Pipeline;
- Balfour Beatty Investments Limited;
- BOC Limited;
- BP Exploration Operating Company Limited;
- BPA;
- Carrington Gas Pipeline;
- CATS Pipeline c/o Wood Group PSN;
- Cemex;
- Centrica Storage Limited;
- Chrysaor Production (UK) Limited;
- CLH Pipeline System Ltd;
- CNG Services Ltd;
- Concepts Solutions People Ltd;
- ConocoPhillips (UK) Teesside Operator Ltd;
- Diamond Transmission Corporation;
- DIO (MOD Abandoned Pipelines);
- DIO (MOD Live Pipelines);
- Drax Group;
- E-ON UK CHP Limited;
- EirGrid;
- Electricity North West Limited;
- ENI & Himor c/o Penspen Ltd;
- EnQuest NNS Limited;
- EP Language Limited;
- ESP Utilities Group;
- ESSAR;
- Esso Petroleum Company Limited;
- Fulcrum Pipelines Limited;
- Gamma;
- Gas Networks Ireland (UK);
- Gateshead Energy Company;
- Gigaclear Ltd;
- Gtt;

- Heathrow Airport Ltd;
- Humbly Grove Energy;
- IGas Energy;
- INEOS FPS Pipelines;
- INEOS Manufacturing (Scotland and TSEP);
- INOVYN Enterprises Limited;
- Intergen (Coryton Energy or Spalding Energy);
- Jurassic Fibre Ltd;
- Mainline Pipelines Limited;
- Manchester Jetline Limited;
- Manx Cable Company;
- Marchwood Power Ltd (Gas Pipeline);
- Melbourn Solar Limited;
- Murphy Utility Assets;
- National Grid Gas (above 7 bar) National Grid Gas Distribution Limited (above 2 bar) and National Grid Electricity Transmission;
- Northumbrian Water Group;
- NPower CHP Pipelines;
- NYnet Ltd;
- Oikos Storage Ltd;
- Orsted;
- Perenco UK Limited (Purbeck Southampton Pipeline);
- Petroineos;
- Phillips 66;
- Portsmouth Water;
- Premier Transmission Ltd (SNIP);
- Redundant Pipelines - LPDA;
- RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station);
- RNEpower (Little Barford and South Haven);
- SABIC UK Petrochemicals;
- Scottish and Southern Electricity Networks;
- Scottish Power Generation;
- Seabank Power Ltd;
- SES Water;
- SGN;
- Shell;
- Shell NOP;
- SSE (Peterhead Power Station);

- SSE Enterprise Telecoms;
- SSE Generation Ltd;
- SSE Utility Solutions Limited;
- Tata Communications (c/o JSM Construction Ltd);
- Total (Colnbrook & Colwick Pipelines);
- Total Finaline Pipelines;
- Transmission Capital;
- Uniper UK Ltd;
- University of Cambridge Granta Backbone;
- Vattenfall;
- Veolia ES SELCHP Limited Network;
- Veolia ES Sheffield Ltd;
- Wales and West Utilities;
- West of Duddon Sands Transmission Ltd;
- Western Power Distribution;
- Westminster City Council; and
- Zayo Group UK Ltd c/o JSM Group Ltd.

7.0 GTC-UK

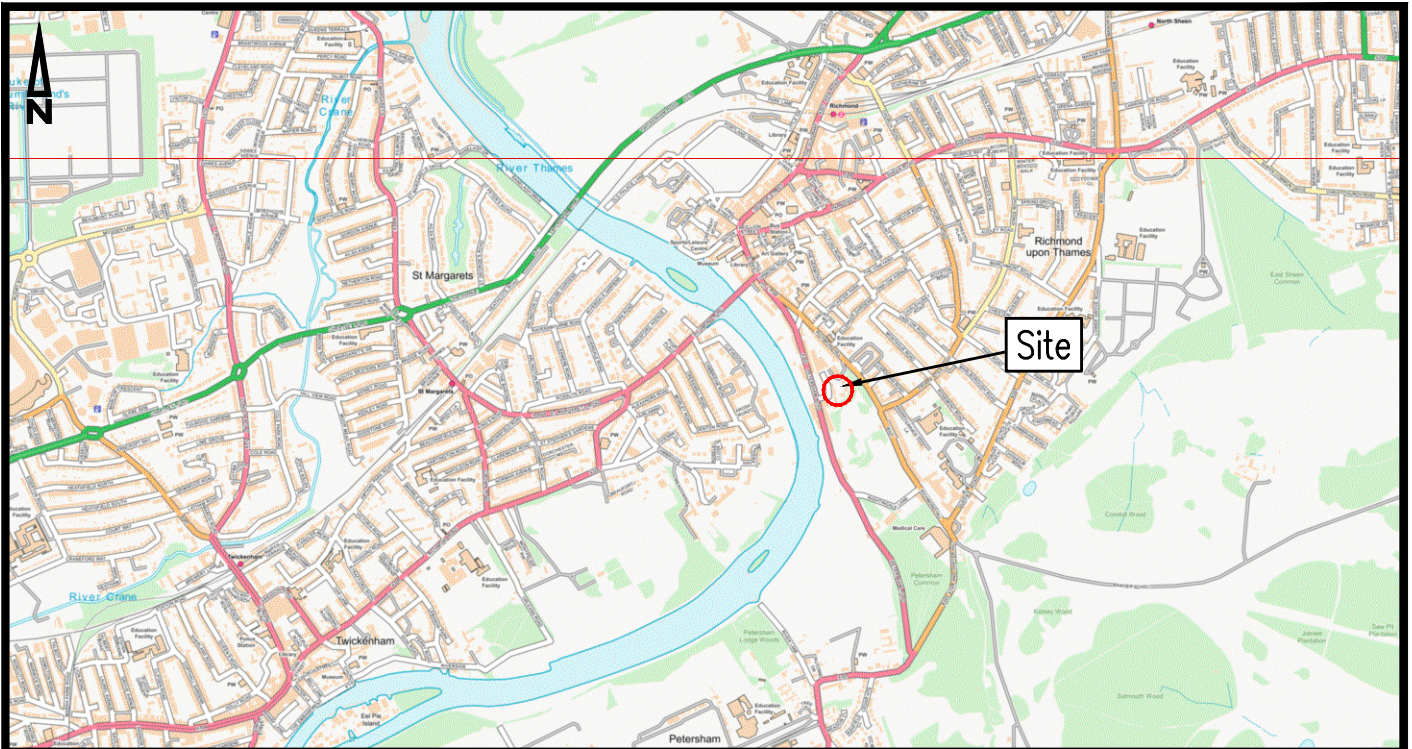
- 7.1 GTC-UK have confirmed that they have no apparatus within the vicinity of the proposed development site. Refer to Appendix 9.

8.0 CONCLUSIONS AND WAY FORWARD

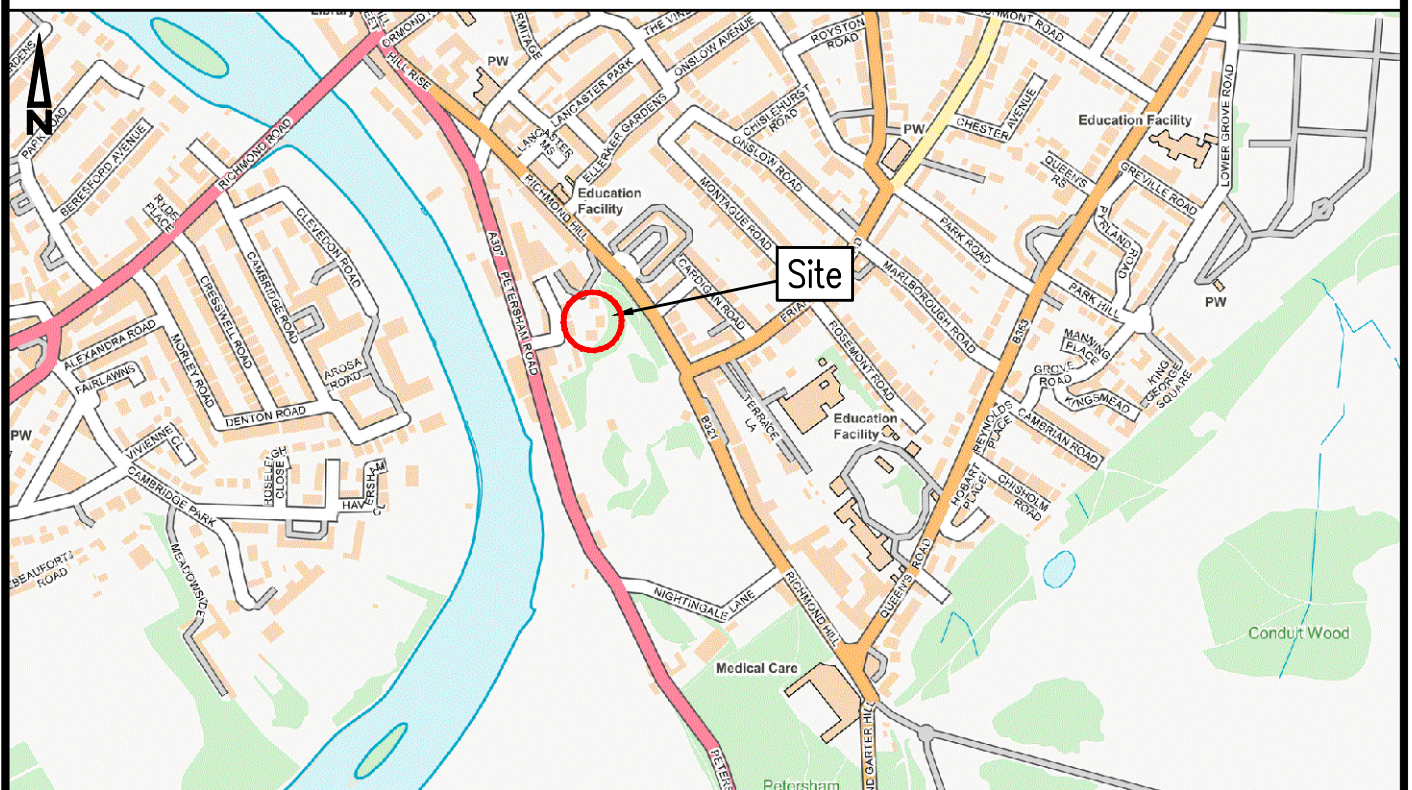
- 8.1 Existing records have been received for electricity, gas, water supply, sewerage, and telecommunication utilities.
- 8.2 Numerous utilities are located within the vicinity of the site, along with UK Power Networks apparatus, BT Openreach telecommunications apparatus and Thames Water combined sewer manholes within the development site itself.
- 8.3 To the west of the site in Richmond Hill LV overhead cables, 11kv underground cables, a Low Pressure gas main, surface water and foul water sewers, a distribution main and trunk main, Virgin Media apparatus and BT Openreach apparatus are located.
- 8.4 To the east of the site in Petersham Road LV overhead cables, a Lower Pressure gas main, a surface water sewer, distribution main, Virgin Media apparatus and BT Openreach apparatus are located.
- 8.5 This *Infrastructure Services Report* has identified that numerous services are located within the vicinity of the proposed development site.
- 8.6 These existing utilities should not affect the proposed development of the site. Once developed, the development will be able to be served / connected conveniently from these utility services.

Cole Easdon Consultants Limited
January 2021

Appendix 1



Scale 1:25,000



Scale 1:10,000

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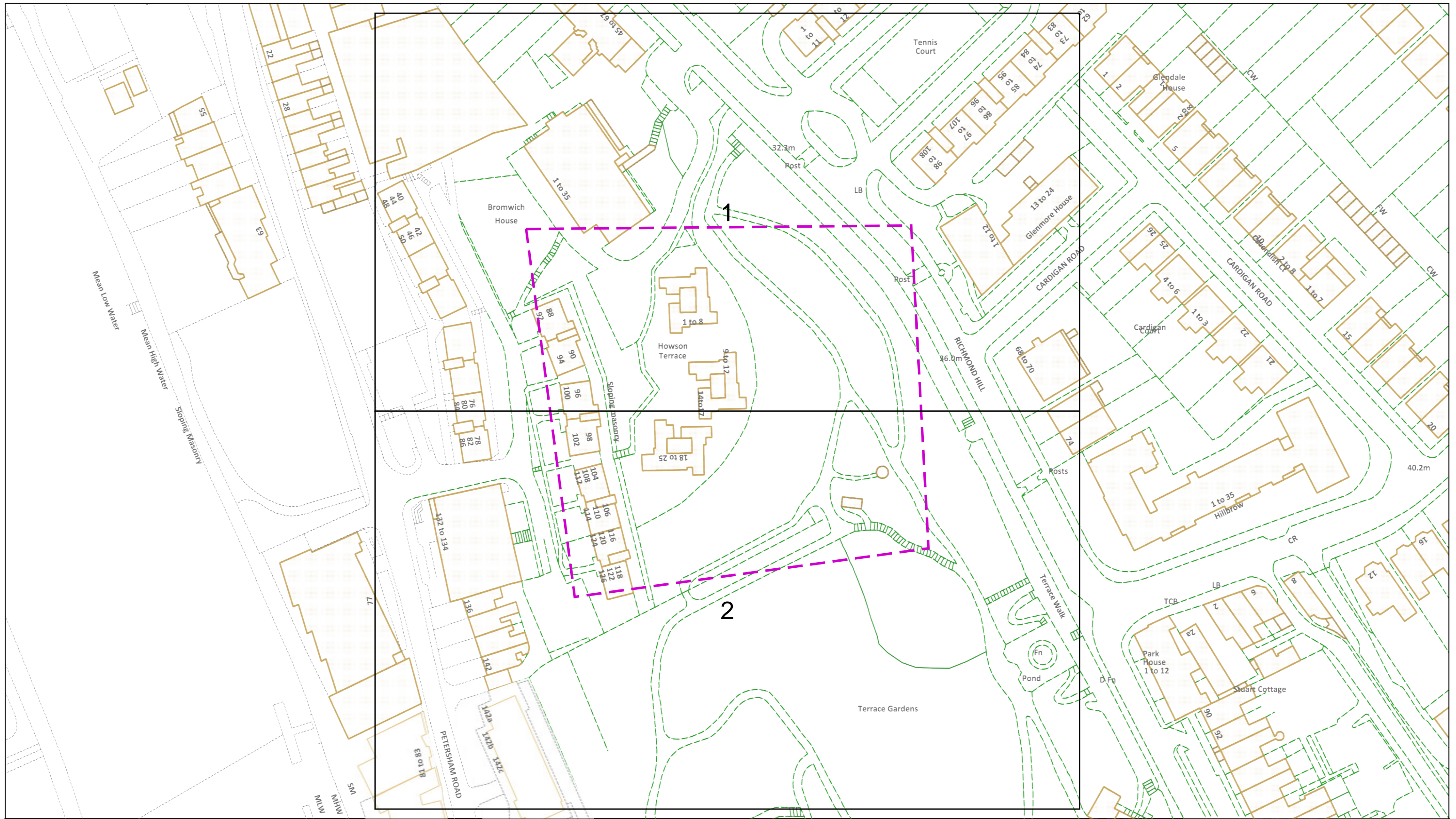
Web Site www.ColeEasdon.com
E-mail cec@ColeEasdon.com

Job Title:
**Howson Terrace
Richmond Hill
Richmond upon Thames**

Drawing Title:
Site Location Plan

No.	By	Date	Revision Details	
Client: Housing 21		Drawing Status:		
		CONSTRUCTION AT RISK		
		AT CLIENT AND/OR CONTRACTOR RISK		
		FOR COMMENT		
		FOR PLANNING		
		FOR TENDER		
Drawn By NP		Date Drawn Oct 2020	Scale As Shown @ A4	
Checked By RB		Drawing No. 7488/500/Figure1	Revision -	

Appendix 2



Dig Sites Area: Line:

The quality and accuracy of any print will depend on your printer, your computer and its print settings. Measurements scaled from this plan may not match measurements between the same points on the ground.

This plan must be used with the attached 'Symbols' document.
 Date Requested: 19/10/2020
 Job Reference: 20180516
 Site Location: 518010 174149
 Requested by: Mrs Sarah Seed
 Your Scheme/Reference: (7488)
 Howson Terrace, Richmond Hill, Richmond
 Scale: 1:1025 (When plotted at A3)

1. The position of the apparatus shown on this drawing is believed to be correct but the original landmarks may have been altered since the apparatus was installed.
2. The exact position of the apparatus should be verified - use approved cable avoidance tools prior to excavation using suitable hand tools.
3. It is essential that trial holes are carefully made avoiding the use of mechanical tools or picks until the exact location of all the cables have been determined.
4. It must be assumed that there is a service cable into each property, lamp column and street sign, etc.
5. All cables must be treated as being live unless proved otherwise by UK Power Networks.
6. The information proved must be given to all people working near UK Power Networks plant and equipment. Do not use plans more than 3 months after the issue date for excavation purposes.
7. Please be aware that electric cables/lines belonging to other owners of licensed electricity distribution systems may be present and it is your responsibility to identify their location.

1. UK Power Networks does not warrant that the information provided to you is correct. You rely upon it at your own risk.
2. UK Power Networks does not exclude or limit its liability if it causes the death of any persons or causes personal injury to a person.
3. Subject to paragraph 2 UK Power Networks has no liability to you in contract, in tort (including negligence), for breach of statutory duty or otherwise for any loss, damage, cost, claims, demands, or expenses that you or any third party may suffer or incur as a result of using the information provided whether for physical damage to property or for any economic loss (including without limitation loss of profit, loss of opportunity, loss of savings, loss of goodwill, loss of business, loss of use) or any special or consequential loss or damage whatsoever.
4. This plan has been provided to you on the basis of the terms of use set out in the covering letter that accompanies this plan. If you do not accept and/or do not understand the terms of use set out in the covering letter you must not use the plan and must return it to the sender of the letter.
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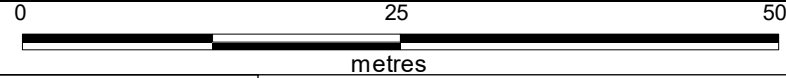
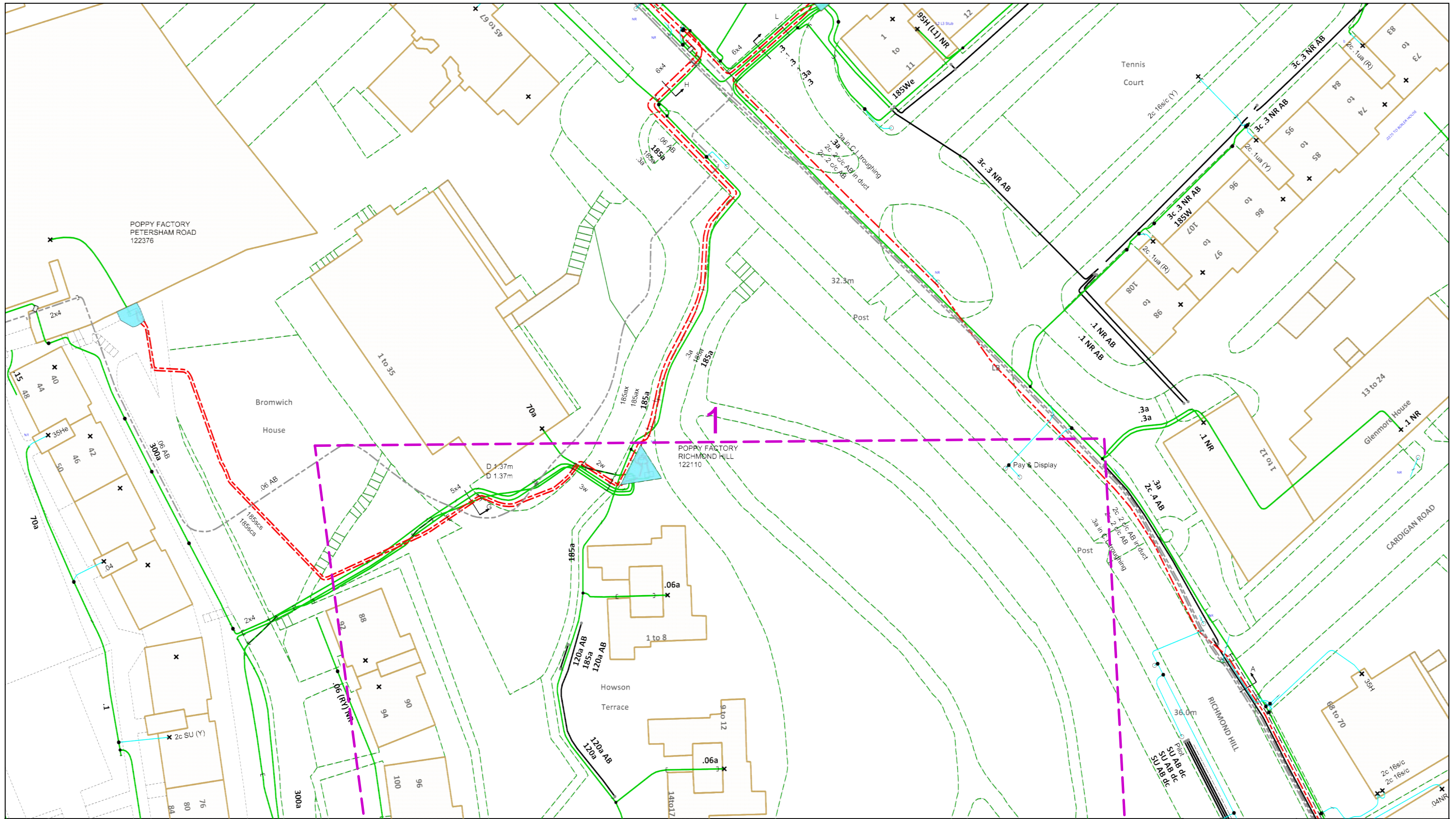


IF IN DOUBT - ASK!
 PHONE 0800 056 5866
 EMERGENCY - If you damage a cable or line
 Phone 0800 783 8838
 (24hrs) URGENTLY



ALWAYS LOOK UP BEFORE YOU START WORK
 Refer to HSE Guidance note GS6

Maps produced at 1:2500 scale are Geo-Schematics which show LV mains cables and overhead lines (in some cases all voltages). Prior to carrying out excavations you must refer to the 1:500 records to determine the location of all known underground plant and equipment.



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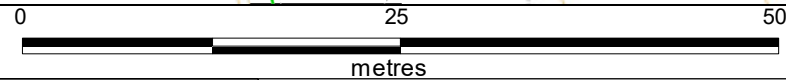
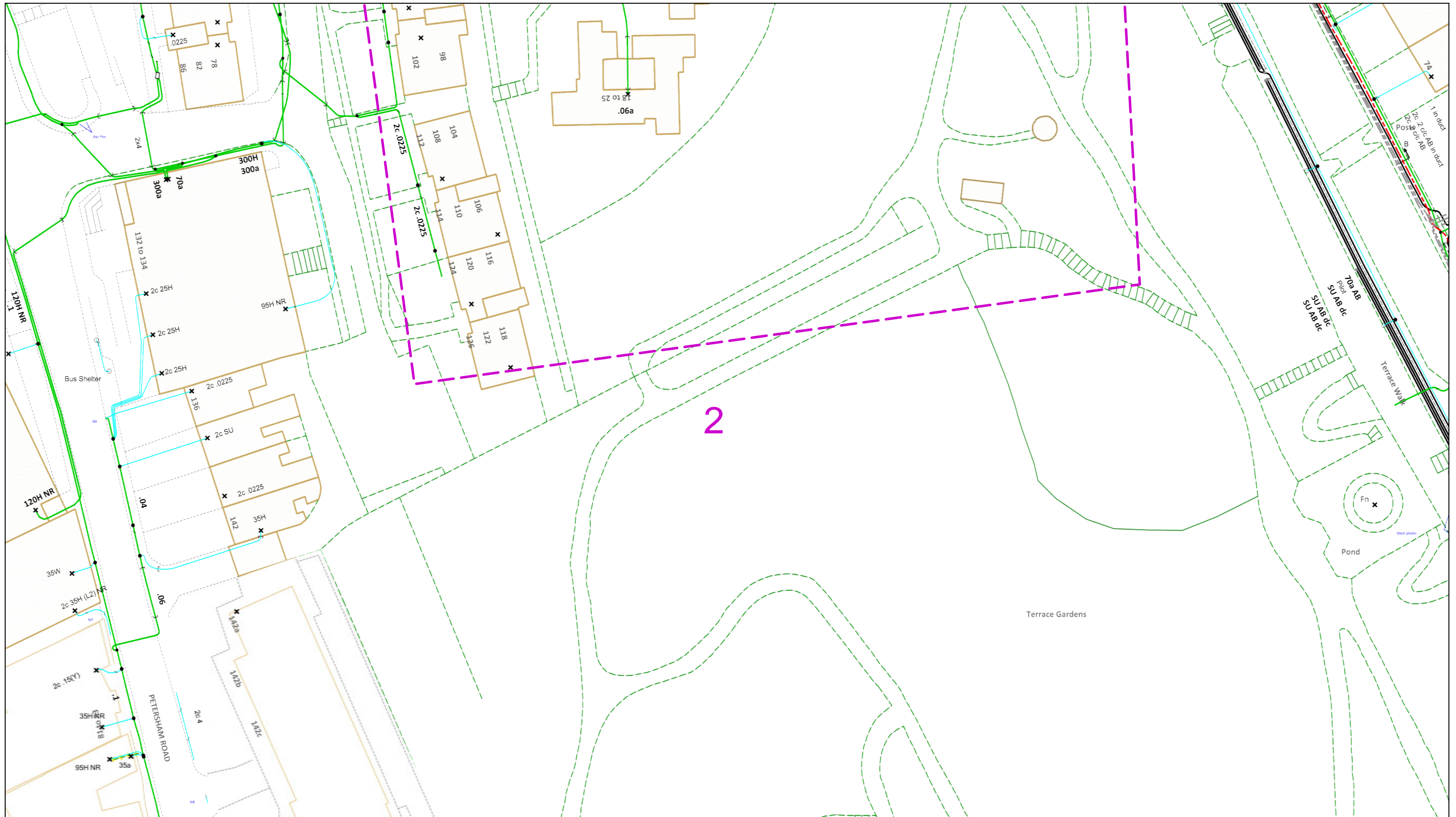
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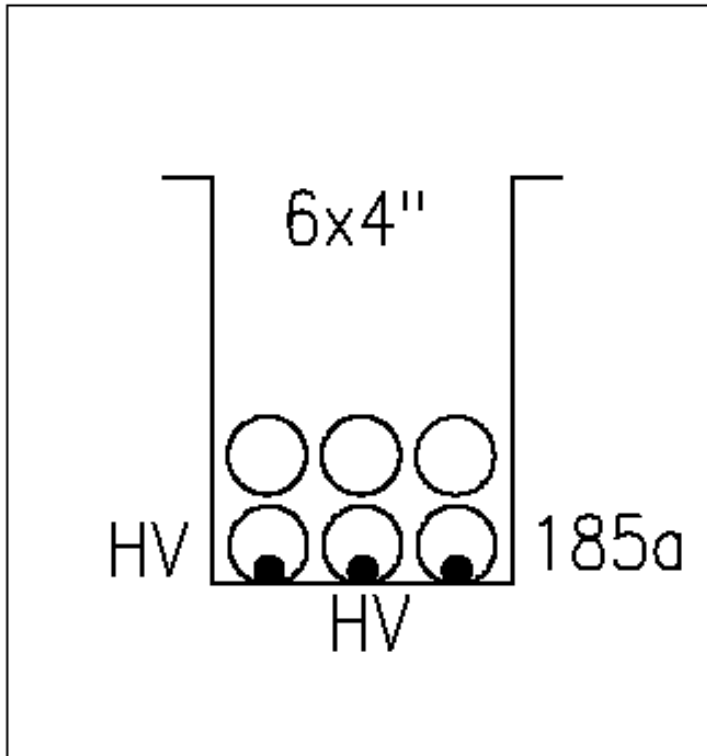
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Cross Section : H



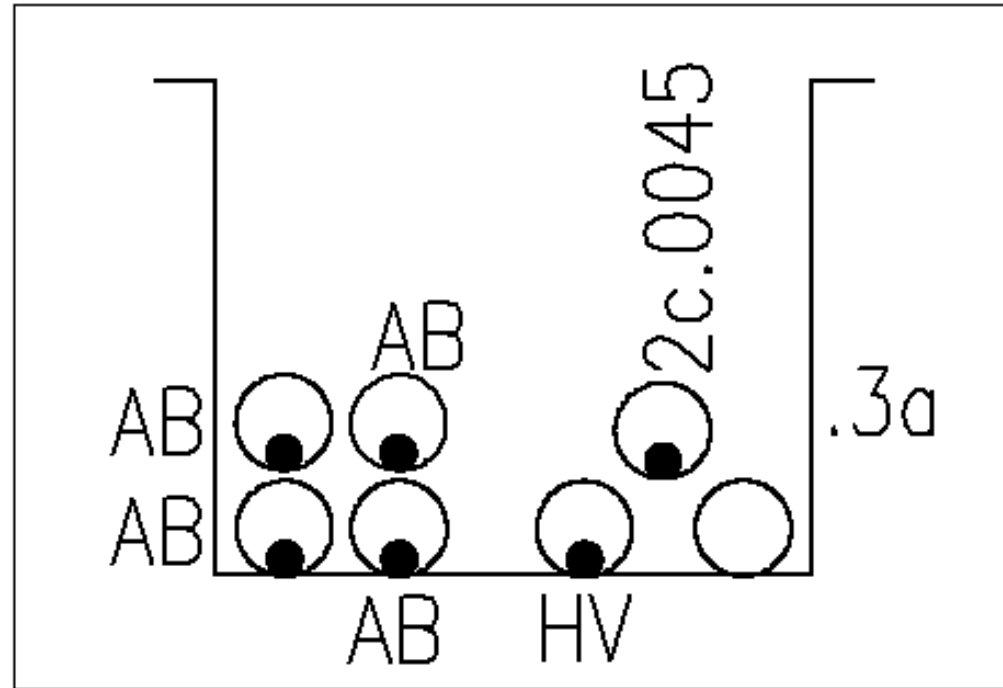
Cross Section
H

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<p>UK Power Networks 185a</p>	
	<p>UK Power Networks 185a</p>

Cross Section : A



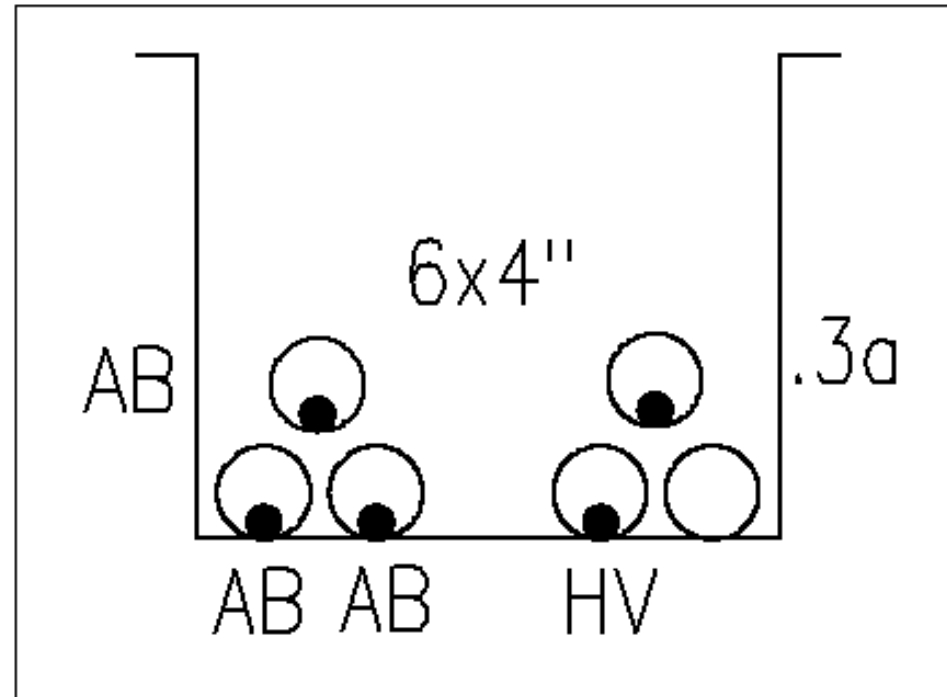
Cross Section A

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<p>UK Power Networks 100% Renewable Energy 2025</p>	
	<p>UK Power Networks 100% Renewable Energy 2025</p>

Cross Section : B



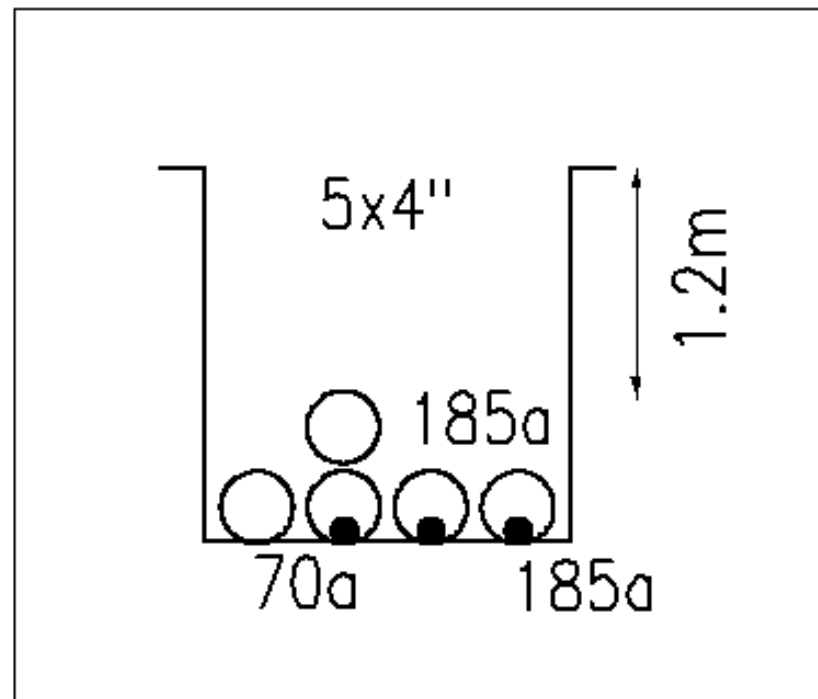
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<p>UK Power Networks 0800 800 000 www.ukpowernetworks.co.uk</p>	
	<p>UK Power Networks 0800 800 000 www.ukpowernetworks.co.uk</p>

Cross Section : G

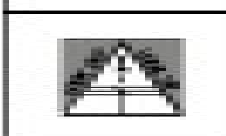


Cross Section G

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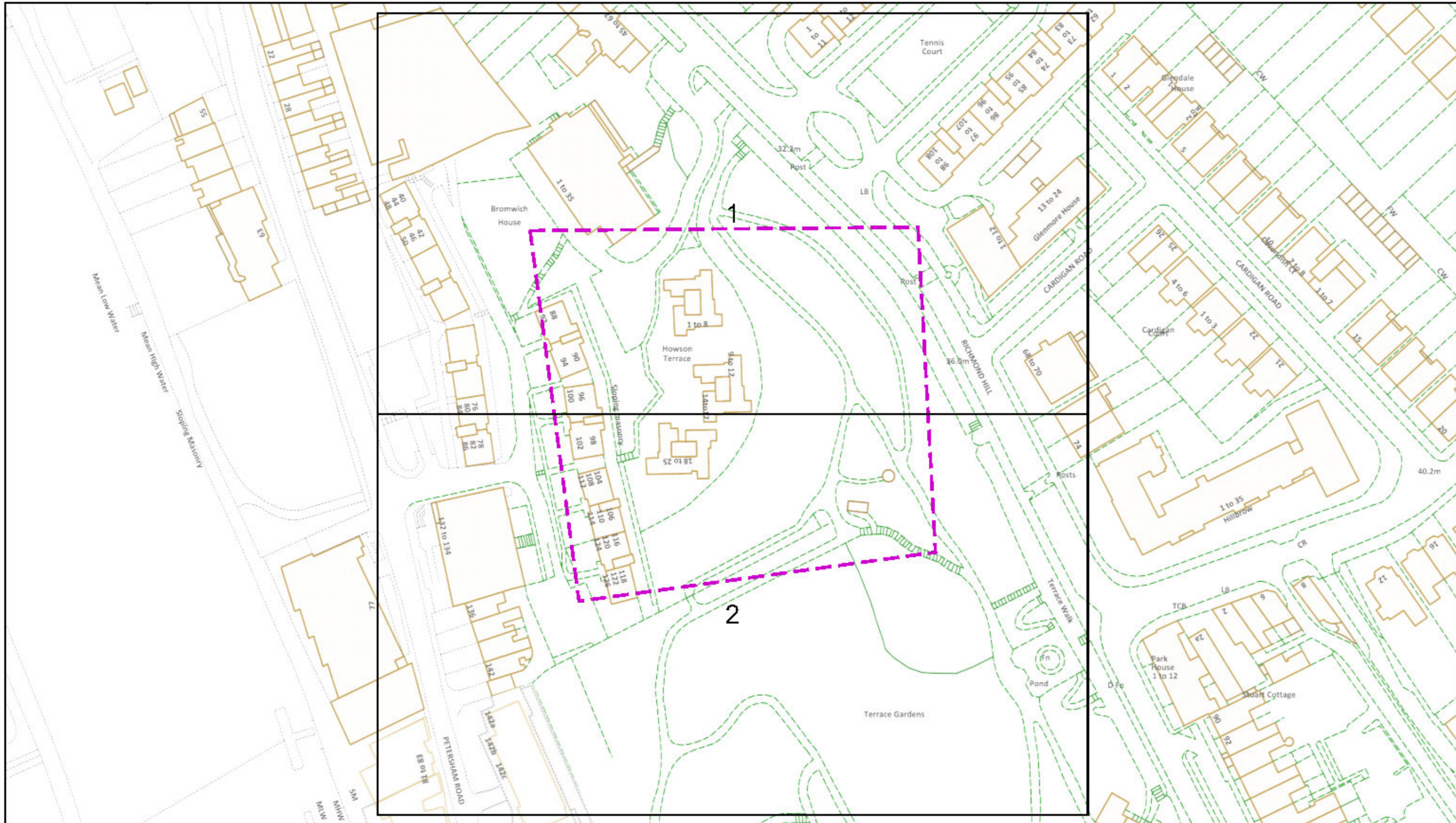
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 111-115, Abchurch Lane, London EC4N 3DF
 020 7625 1000
 www.ukpowernetworks.co.uk



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Dig Sites Area: Line:

The quality and accuracy of any print will depend on your printer, your computer and its print settings. Measurements scaled from this plan may not match measurements between the same points on the ground.

This plan must be used with the attached 'Symbols' document.
 Date Requested: 19/10/2020
 Job Reference: 20180518
 Site Location: S18010 174149
 Requested by:
 Mrs Sarah Seed
 Your Scheme/Reference: J7488
 Howson Terrace, Richmond Hill.
 Scale: 1:1025 (When plotted at A3)

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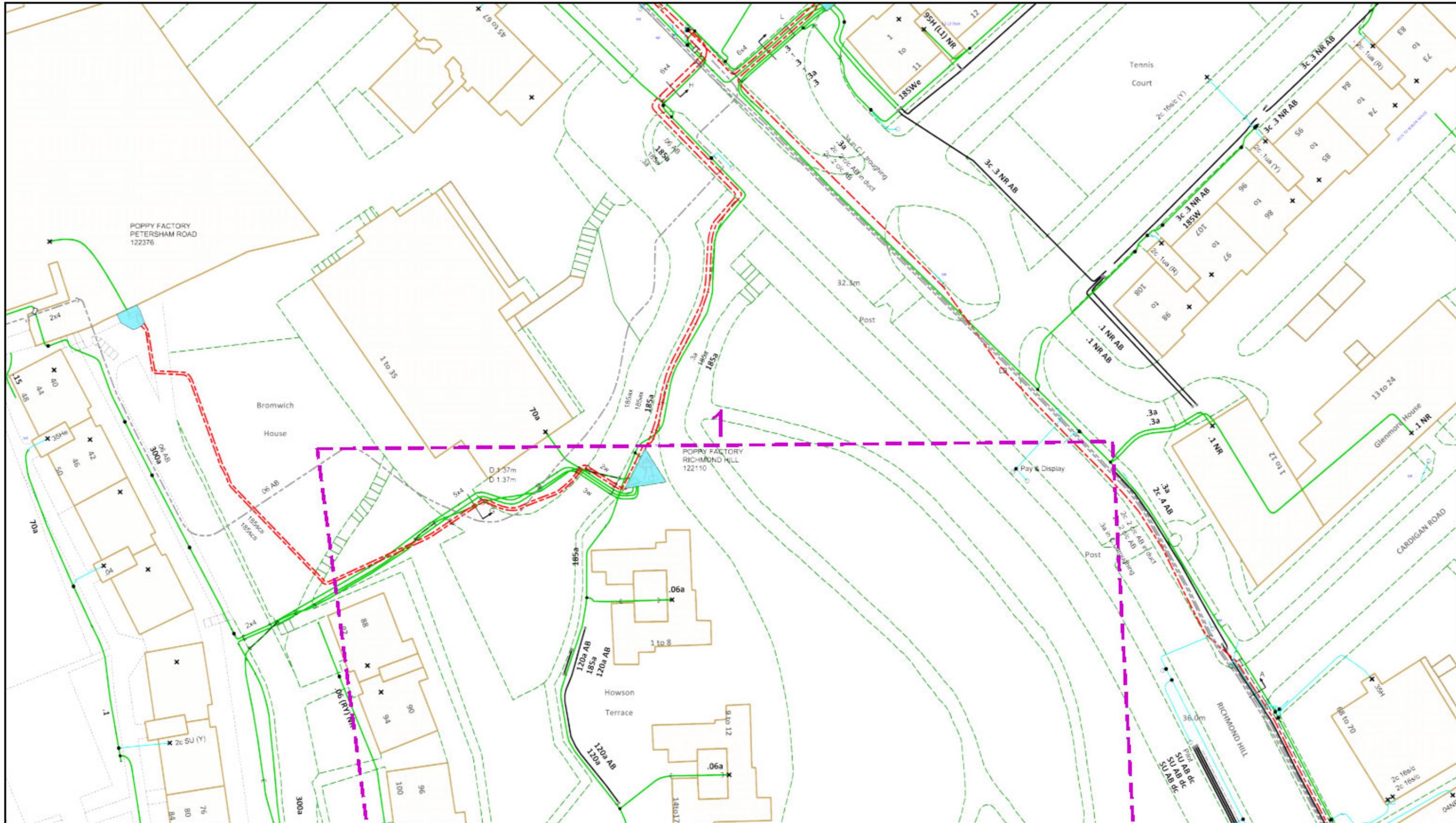


IF IN DOUBT - ASK!
 PHONE 0800 056 5866
EMERGENCY - If you
 damage a cable or line
 Phone 0800 783 8838
 (24hrs) URGENTLY



ALWAYS LOOK UP BEFORE YOU START WORK
 Refer to HSE Guidance note GS6

Map produced at 1:2500 scale are Geo-Statistics which show LV mains cables and overhead lines in some cases all voltages. Prior to carrying out excavations you must refer to the 1:500 woods to determine the location of all known underground plants and equipment.



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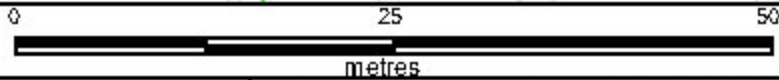
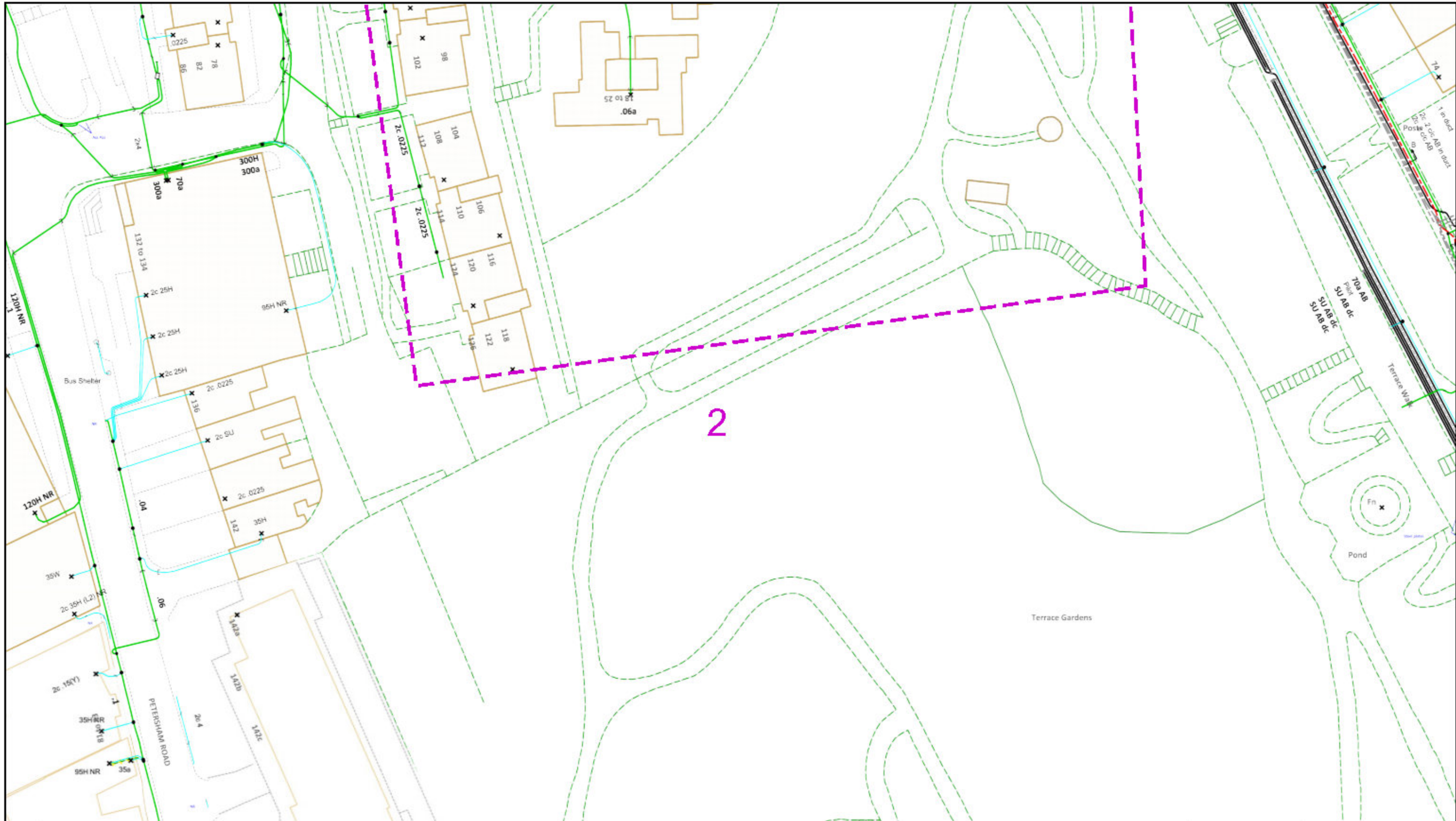


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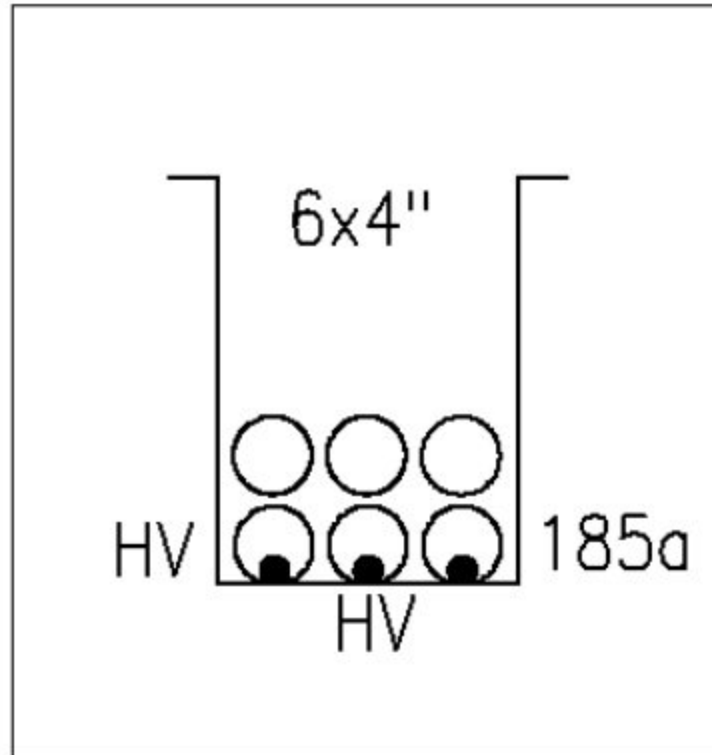
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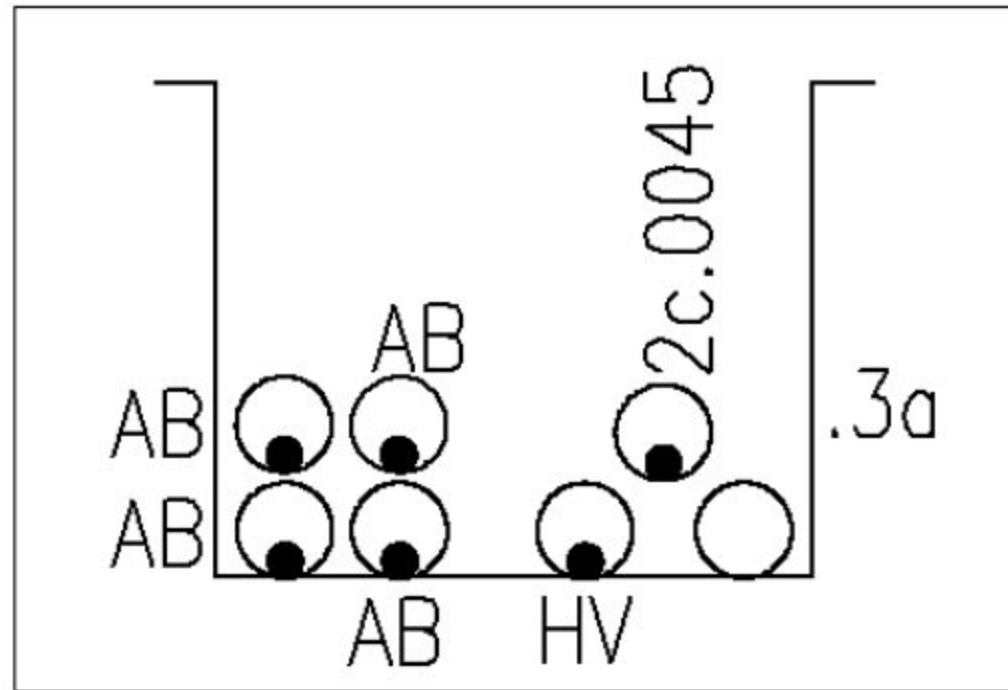
Cross Section : H



Cross Section
H

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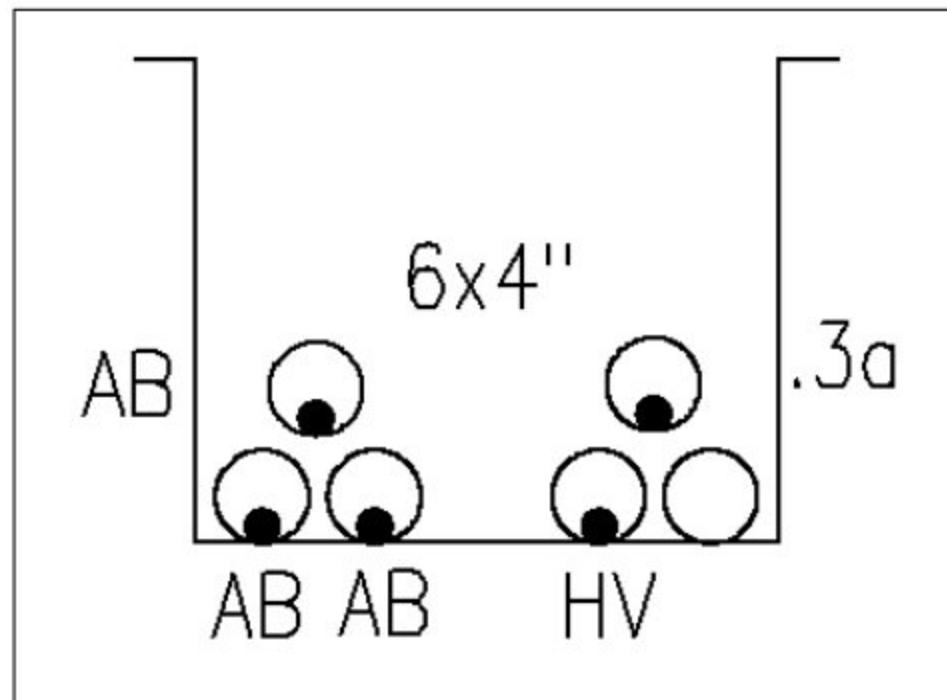


Cross Section A

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Cross Section : B

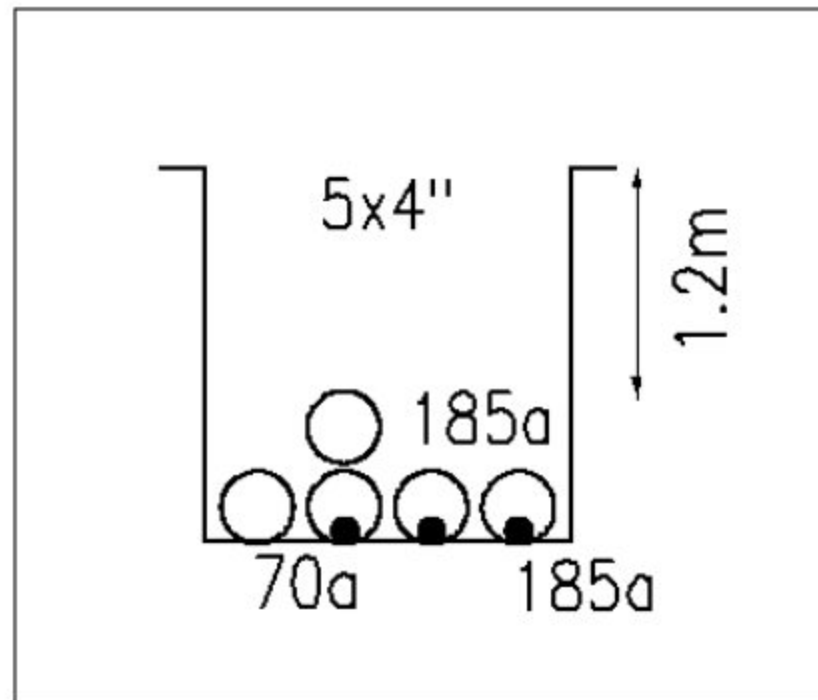


Cross Section B

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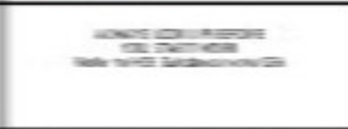
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Network Records NetMAP Symbols Booklet - South East England

Version 1.2

Released October 2010

Always check with your local Network Records office or the UK Power Networks server to ensure that you are using the most up to date copy of this booklet - Tel: 08000 565866

(i)

Index:-

Page no:	Contents:
1	Guidance notes.
2	The area covered by this guide.
3	<u>1:500 (& 1:1250) view</u>
	Scenery.
4	Scenery (UK Power Networks use only).
7	Primary distribution line route (EHV).
8	Secondary distribution cables (HV/LV).
9	Secondary distribution cable terminology.
12	Cable ducts.
13	Poles.
14	EHV, HV and LV sites.
15	Joints.
16	Street furniture
17	Miscellaneous.
18	Connectivity.
19	Abbreviations.
20	Cable phasing.
21	Operational status colours.
22	<u>1:2500 view</u> (UK Power Networks use only).
	Notes.
23	Primary distribution line route.
24	Secondary distribution cables.
25	Primary and secondary sites.
27	Switch types.
28	<u>1:10000 view</u> (UK Power Networks use only).
	Notes.
29	Secondary distribution cables.
30	Primary and secondary sites.

(ii)

Guidance notes.

Important notice:

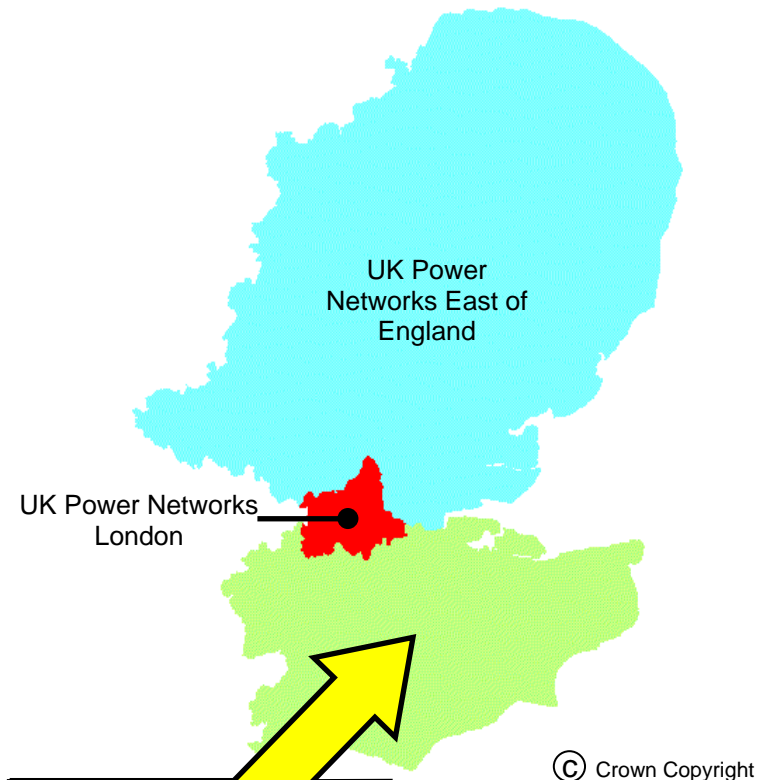
If you do not understand the NetMAP record that you are using, please contact the UK Power Networks Network Records team for guidance on
Tel: 08000 565866.

- The position of apparatus shown on NetMAP is believed to be correct, but the original landmarks may have altered since the apparatus was installed.
- It must be assumed that there is at least one service to each property, lamp column, street sign etc.
- Third party cables are not usually shown.
- When viewed in black and white, the line-style indicates the voltage.
- All LV cables are 4 core and all HV cables are 3 core – unless otherwise stated.
- All cables are copper – unless otherwise stated.



**Plan Provision Team
and CableWatch
Fore Hamlet
Ipswich
Suffolk IP3 8AA
Tel: 08000 565866**

The area covered by this guide:







**UK Power Networks
South East England.**








This is the only area
where this booklet
applies

1:500 (& 1:1250) view

Scenery








NetMAP system	Description
	Secondary buildings and fence lines
	Building line
	Kerb line
	UK Power Networks / SPN licence boundary (not visible unless selected)

Scenery for UK Power Networks use only - boxed in red









NetMAP system	Description
 Inset Network – Contact xxxx IDNO for further information	Area of inset network - not the asset of UK Power Networks (only visible to UK Power Networks and their immediate contractors)
	Proposed Cross Rail route (only visible to UK Power Networks and their immediate contractors)
	High pressure pipelines in the general vicinity (only visible to UK Power Networks and their immediate contractors)
<p>Note: Pipelines are only viewable on NetMAP by UK Power Networks staff and their immediate contractors. Do not carry out any excavation without consent from the relevant agency - legally protected high pressure petroleum products pipeline route in the general vicinity - consult www.linewatch.co.uk for contacts and guidance. Pipeline contact numbers can also be found on the intranet – out of hours, contact our Control Centre.</p>	
	Water - surface water (only visible to UK Power Networks and their immediate contractors)
	Water - Source Protection Zone 1 (only visible to UK Power Networks and their immediate contractors)
	Water - Source Protection Zone 2 (only visible to UK Power Networks and their immediate contractors)
	Water - Source Protection Zone 3 (only visible to UK Power Networks and their immediate contractors)

section continued on next page




Scenery for UK Power Networks use only - boxed in red

NetMAP system	Description
	Historical - Scheduled Monuments (only visible to UK Power Networks and their immediate contractors)
	Historical - Parks and Gardens (only visible to UK Power Networks and their immediate contractors)
	Historical - Areas of Archaeological Potential (AAP) (only visible to UK Power Networks and their immediate contractors)
	Nature - Ramsar Wetlands of International Importance (only visible to UK Power Networks and their immediate contractors)
	Nature - Special Area of Conservation (SAC) (only visible to UK Power Networks and their immediate contractors)
	Nature - Special Protected Area (SPA) (only visible to UK Power Networks and their immediate contractors)
	Nature - Site of Special and Scientific Interest (SSSI) (only visible to UK Power Networks and their immediate contractors)
section continued on next page	














Scenery for UK Power Networks use only - boxed in red

NetMAP system	Description
	Nature - Local Nature Reserve (only visible to UK Power Networks and their immediate contractors)
	Nature - National Nature Reserve (only visible to UK Power Networks and their immediate contractors)
	Nature - Area of Outstanding Natural Beauty (AONB) (only visible to UK Power Networks and their immediate contractors)
	Nature - National Park (only visible to UK Power Networks and their immediate contractors)
	Fluid filled cables - very high sensitivity (only visible to UK Power Networks and their immediate contractors)
	Fluid filled cables - high sensitivity (only visible to UK Power Networks and their immediate contractors)
	Fluid filled cables - medium sensitivity (only visible to UK Power Networks and their immediate contractors)
	Fluid filled cables - low sensitivity (only visible to UK Power Networks and their immediate contractors)

Primary distribution line route (1:500 view)

NetMAP system	Description
	275–400kV National Grid route
	132kV cable route
	33kV cable route
Approximate routes only – see separate record	

Secondary distribution cables (1:500 view)

NetMAP system	Description
	11kV underground cable
	11kV overhead line
	6.6kV underground cable
	6.6kV overhead line
	<6.6kV underground cable
	<6.6kV overhead line
	LV underground cable
	LV overhead line
 Pilot	Pilot cable
 2c SU pl	LV street lighting (pl)
	Service overhead line
	Service underground
	Logical service connection

Secondary distribution cable terminology (1:500 view)

HV underground

sta (no text)	PILCSTA (paper insulated lead covered steel tape armour)
XLPE	PILCSWA (paper insulated lead covered steel wire armour)
bcs	XLPE (cross linked polyethylene) insulation
scs	CAS (corrugated aluminium sheath) belted construction
ua	CAS (corrugated aluminium sheath) with screened cores
c/c	PILC (paper insulated lead covered) unarmoured
Poly	Concentric cores
BOTES	Poly (polyethylene) insulation
of	BOTES – Board of Trade earth screen
33 kV design	Oil filled
ax	Constructed to 33 kV specification
cx	Triplex with aluminium conductor
	Triplex with copper conductor

HV overhead

(no text)	Bare open wire
pvc	Open wire PVC covered
cat	ABC (aerial bundled or bunched conductor) with supporting strain wire
+ew	Open wire with extra earth conductor
ccc	Compact covered conductor

Overhead line materials

sca	Steel cored aluminium
cc	Cadmium copper
st	Steel
sil	Simalec
ccs	Copper covered steel
cpl	Compactal

section continued on next page

Secondary distribution cable terminology continued (1:500 view)

LV underground mains and services

W	Waveform
We	Waveform with separate earth wire
H	Hybrid – copper neutral with aluminium phase conductor
He	Hybrid with separate earth wire
ua	PILC (paper insulated lead covered) unarmoured
(no text)	PILC (paper insulated lead covered) with/without armour
XLPE	XLPE (cross linked polyethylene) insulation
DISTR1	PISTA (paper insulated steel tape armour) 4c SAC (solid aluminium core) with lead covered neutral
c/c	Concentric cores
s/c	Split concentric with separated neutral and earth wires
CONSAC	Paper insulated aluminium sheathed 3 core with solid aluminium cores
vb	Vulcanised bitumen/rubber insulation
Capothene	Capothene core insulation
tby	Tape braid and yarn
swa	PILSWA (paper insulated lead steel wire armour)
sac	PILSTA (paper insulated steel tape armour) solid aluminium core
Solidal	4 sector SAC with solid aluminium cores
LSF	Low smoke and fume (orange cable)
Trough	Cable laid in filled trough

LV overhead mains and services

(no text)	Bare open wire
ABC	Aerial bundled (or bunched) conductor
cat	ABC (aerial bundled or bunched conductor) with supporting strain wire
pvc	PVC covered open wire
c/c	Concentric cores
H	Hybrid – copper neutral with aluminium phase conductor
ue	Under eaves – hessian covered lead cable
vir	Vulcanised India rubber insulation

section continued on next page

Secondary distribution cable terminology continued
(1:500 view)









Various annotation	
.1	Cable size (sq. inches)
185	Cable size (sq. millimetres)
a	Aluminium
ITC	Instrument traced cable or ITC - cable traced electronically using Cable Avoidance Tool (CAT) or similar













Cable ducts (1:500 view)








NetMAP system	Description
<p>Extent of Ducts 2 x 125 pvc</p> <p>A or 746345</p>	<p>Duct 2 way</p> <p>Duct 1 way (no text)</p> <p>Spare duct</p> <p>Cross section arrow</p> <p>Cross section showing: duct, tile depth, tile, single LV cable and HV Triplex cable</p>







Duct materials

(no text) pvc st asb fbr wi cp t/e	<p>Earthenware</p> <p>PVC</p> <p>Steel</p> <p>Asbestos</p> <p>Fibre</p> <p>Iron</p> <p>Concrete pipe</p> <p>Trenchless excavation</p>
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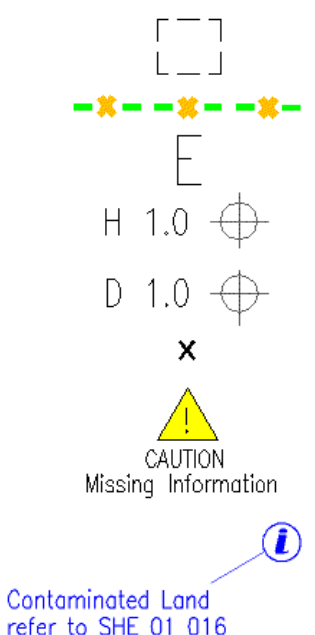
Poles (1:500 view)	
NetMAP system	Description
(S) 999999 	Section pole
	Pole number (unique) Single leg H pole
	3 member
	4 member
	Strut
	Pole support (stay)
	Flying stay
	Tower 33kV to 400kV

EHV, HV and LV sites (1:500 view)	
NetMAP system	Description
Note: EHV and HV sites are identified by a unique 6 digit number (SPENS)	
	Ground mounted primary substation showing name, transformer voltage and SPENS number
	Pole mounted substation showing name and SPENS number
	Ground mounted substation showing name and SPENS number
	2 way link box
	4 way link box
	Link box without busbar
	(options similar to 1:2500 view) LV distribution pillar
	Voltage regulator
	Voltage balancer
	Open point
	Open point - out of phase
	Overhead open point
Note: For LV linking, use the 1:2500 view	

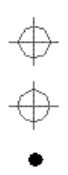
Joints (1:500 view)	
NetMAP system	Description
	Straight (same for HV)
	Pot end (same for HV)
	Branch (same for HV)
	Sleeve repair
	Capped end
	Service to LV main
	Under eaves service
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>□</p> <p>.1 .15 □</p> <p>R - R</p> <p>Y - B</p> <p>B - Y</p> </div>	Jointing phase drawing

Street furniture (1:500 view)	
NetMAP system	Description
	Pole mounted street light
	Street light Zebra crossing Road sign
	Bollard Pelican crossing Traffic controller Advertising sign Amplifier station
	Control cubicle
	<u>Text displayed/description</u> Pay and display Bus shelter TBS
	Kiosk Water meter PL pillar TCB Unknown

Miscellaneous (1:500 view)

NetMAP system	Description
	<p>Underground chamber or draw pit</p> <p>Earth conductor</p> <p>Earth pin</p> <p>Height marker</p> <p>Depth marker</p> <p>Supply point</p> <p>Missing data in or near this location</p> <p>Contaminated land reference</p>

Connectivity (1:500 view)

NetMAP system	Description
	<p>Edge node</p> <p>Node</p> <p>Connector</p> <p>Pole termination (nothing visible unless selected)</p> <p>Edge nodes, nodes, connectors and pole termination joints may not appear on screen unless turned on and selected.</p>

Abbreviations (1:500 view)

NetMAP system	Description
NR	No record
SU	Size unknown
AB	Abandoned
(M)	PME available
V05	Year LV linking verified
MS	Milestone
MP	Marker post
pmt	Pole mounted transformer
pl	Public lighting
TBS	Temporary builder's supply
TCB	Telephone call box
CET	Cable electronically traced
IT	Instrument traced (same as CET)
CAT	Cable avoidance tool (same as CET)
+sl	Street lighting
+sw	Switch wire
2c	2 core
PESL	Public Electricity Supply License
Added	Supplied by SPN
Excluded	Not supplied by SPN
IIP	Assumed open point
VSxxxx	Vacant site
CB	Callender box

Cable phasing (1:500 view)

<u>Old core colours</u>	<u>Shown on map</u>	<u>New core colours</u>
Neutral	Neutral	Neutral
Red	R	L1
Yellow	Y	L2
Blue	B	L3

Note:- Scott is a different phasing system

Operational status colours (1:500 view)




PROPOSAL ———— Symbols and cables appear in ORANGE
OUT OF SERVICE ———— Cable and joints appear in BLACK
ABANDONED ———— Cables and joints appear in GREY

1:2500 view - for UK Power Networks use only - boxed red






Notes

1. No underground HV cables are shown on the 1:2500 view
2. Poles and joint details are similar to the 1:500 view
3. For cable/line information refer to the 1:500 view



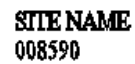
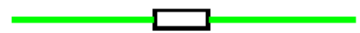

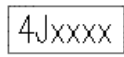
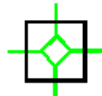
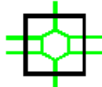

Primary distribution line route (1:2500 view)

NetMAP system	Description
	275–400kV National Grid route
	132kV cable route
	33kV cable route

Secondary distribution cables (1:2500 view)







NetMAP system	Description
	11kV overhead line
	6.6kV overhead line
	<6.6kV overhead line
	LV underground cable
	LV overhead line

Primary and secondary sites (1:2500 view)

NetMAP system	Description
Note: EHV and HV sites are identified by a unique 6 digit number (SPENS)	
	Ground mounted substation showing capacity, phase, name and SPENS number
	Pole mounted substation showing capacity, phase, name and SPENS number
	Primary substation showing name and SPENS number (no site shown)
	2 way link box
	4 way link box
	Link box identifier
	4 way link box without busbar
	6 way link box without busbar
	8 way link box without busbar

section continued on next page

Primary and secondary sites continued (1:2500 view)

NetMAP system	Description
	LV distribution pillar
	Voltage regulator
	Voltage balancer
	Open point
	Open point - out of phase
	Earth pin

Switch types (1:2500 view)







NetMAP system	Description
ABSD	Air brake switch disconnecter
A/R	Auto recloser
A/S	Sectionaliser
FUSE	Fuse
S/D	Surge diverter
PF	Pathfinder
ASL	Automatic sectionalising links
PMR	Pole mounted recloser
PMS	Pole mounted sectionaliser
GVR	Gas vacuum recloser

1:10000 view - for UK Power Networks use only - boxed red











Notes

1. No EHV cables/overhead lines shown on 1:10000 view.
2. For congested areas print at 1:5000.
3. HV site used instead of branch joint on 1:10000 for connectivity purposes. The site is not displayed until it is selected.

Secondary distribution cables (1:10000 view)

NetMAP system	Description
	11kV underground cable
	6.6kV underground cable
	<6.6kV underground cable
	11kV overhead line
	6.6kV overhead line
	<6.6kV overhead line

Primary and secondary sites (1:10000 view)

NetMAP system	Description		
Note: EHV and HV sites are identified by a unique 6 digit number (SPENS)			
<table border="1"> <tr> <td>SITE NAME 008590</td> <td></td> </tr> </table>	SITE NAME 008590		Primary substation showing name and SPENS number
SITE NAME 008590			
SITE NAME 521234			
SITE NAME 524514			
SITE NAME 523634			
SITE NAME pmt 527522			
SITE NAME pmt 525743			
SITE NAME pmt 526543			
SITE NAME 527238			

Appendix 3



Your Ref: (7488) HOWSON TERRACE, RICHMOND HILL, LONDON
BOROUGH OF RICHMOND
Our Ref: PSUS-1735018.1
Date: 13 Oct 2020

COLE EASDON CONSULTANTS LTD
COLE EASDON CONSULTANTS
UNIT 2, YORK HOUSE
EDISON PARK, DORCAN WAY
SWINDON
WILTSHIRE
SN3 3RB

[PSUS-1735018.1]



Plant Protection
Cadent
Block 1
Brick Kiln Street
Hinckley
LE10 0NA

Telephone 0800 688588*
Email: plantprotection@cadentgas.com

Electricity Emergency Number:
0800 40 40 90*
National Gas Emergency Number:
0800 111 999*

*Available 24 hours, 7 days/week.
Calls may be recorded and monitored.
www.cadentgas.com

F.A.O. Cole Easdon Consultants Ltd

Dear Sirs,

Re: HOWSON TERRACE, RICHMOND HILL, LONDON BOROUGH OF RICHMOND, TW10 6RT.

Thank you for your enquiry dated 12 Oct 2020. Please note this letter and information is only being provided in response to a property search and should not be used when carrying out any construction or excavation works.

An assessment has been carried out with respect to Cadent Gas Ltd apparatus.
Please note that the plan attached does not show the location of domestic or industrial service pipes but they should be anticipated near to buildings or property.

Based on the information you have provided we have concluded that Cadent Gas Ltd infrastructure **is Affected**. Therefore, the land which is subject of this enquiry **may be subject to the provisions of an Easement or Wayleave agreement**, which may prevent the erection of permanent / temporary buildings, or structures etc.

There may also be rights reserved for apparatus granted to other utility companies within the area of interest.

For details of such Easement or Wayleave agreements, please see the Land Registry website www.landregistry.gov.uk

IMPORTANT NOTE: This response is for the Cadent Gas Ltd networks ONLY. You SHOULD also obtain information of National Grid gas and electricity transmission networks. Please refer to www.utilitysearch.com

For any other enquiries, particularly regarding carrying out any construction activities, you are required to contact our Cadent Plant Protection team in advance of any work at the following address:

Plant Protection
Cadent, Block 1
Brick Kiln Street
Hinckley LE10 0NA
0800 688 588
plantprotection@cadentgas.com



SCALE: 1:1250	
USER ID: Ravi.Kapadia1	
DATE: 10/13/2020	
NRSWA RESPONSE	
MAP REF: TQ 1874	
CENTRE: 518096.174235	<p>Approximate scale 1:1250 printed on A3 Colour Portrait</p>
Some examples of plant items:	

This plan shows those pipes owned by Cadent Gas Limited in their role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Cadent Gas Limited or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HSG47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

Cadent

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